TABLE OF CONTENTS

SECTION I TRAFFIC ITEMS

CHAPTER 1 Traffic Signal Installation	Introduction * Wooden Poles With Down Guys * Steel Strain Poles * Span, Catenary, & Down Guys * Signal Head Installation & Clearances * Disconnect Hanger Installation * Signal Cable Installation * Drip Loop Installation * Pole and Mast Arm Installation * Electric Service & Entrance Switch Inst. * Controller Installation Including Foundation * Steel Conduit Installation * Handhole Installation * Detector Housing & Traffic Detection * Loop Installation * Saw Loops * Installation of Loop Wire * Thermoplastic, Preformed Plastic, & 100% Solid Epoxy Pavement Marking Installation * Pavement Marking Installation	1 - 1 1 - 2 1 - 4 1 - 6 1 - 7 1 - 8 1 - 8 1 - 10 1 - 11 1 - 13 1 - 13 1 - 14 1 - 16 1 - 16 1 - 16
CHAPTER 2 Ground Mounted Sign Installation	Introduction * Pre-Construction Duties * Construction Duties * Installation of Channel Posts * Installation of Sheet Signs * Installation of Structural Steel Posts * Installation of Panel Signs * Measurement and Payment	2 - 1 2 - 2 2 - 3 2 - 3 2 - 4 2 - 5 2 - 6 2 - 7
CHAPTER 3 Overhead Sign Structures	Introduction * Pre-Construction Duties * Construction Inspection Duties * Concrete Foundations * Structure Erection * Sign Installation	3 - 1 3 - 2 3 - 3 3 - 3 3 - 4 3 - 5

	* Structure Placement* Measurement & Payment Duties	3 - 6 3 - 6
CHAPTER 4 Highway Lighting	Introduction * Maintenance * Construction Requirements * Galvanized Steel Conduit * Electrical Connectors * Lighting Standards * Cable Duct * Cable Duct Markers * Lighting Handholes * Lighting Standard Foundations * Grading at Lighting Standards * High Mast Tower Lighting * Grounding * Roadway Luminaries * Sign Illumination * Service Points * High Mast Luminaires * Underpass Illumination * Identification Numbers * Testing of Lighting Systems * Measurement & Payment Duties	4 - 1 4 - 1 4 - 2 4 - 3 4 - 3 4 - 4 4 - 5 4 - 6 4 - 7 4 - 7 4 - 8 4 - 9 4 - 10 4 - 11 4 - 11 4 - 11 4 - 11 4 - 11 4 - 11
SECTION II	MISCELLANEOUS CONCRETE ITEMS	
CHAPTER 5 Curbs	Introduction * Curb Types * Precast Concrete Curbs * Cast in Place Cement Concrete Curb * Grade Preparation * Forms * Cement Concrete Curb Machines * Concrete Composition & Placement * Joints * Curing * Additional Requirements for Cement Concrete Center Curb * Construction & Inspection Procedures * Measurement & Payment	5 - 1 5 - 2 5 - 3 5 - 3 5 - 4 5 - 4 5 - 5 5 - 5 5 - 6 5 - 7 5 - 7
CHAPTER 6	Introduction	6 - 1

Sidewalks, Curb Ramps, and Steps	 * Grade Preparation * Forms * Placing Concrete * Finishing * Joints * Curing * Cement Concrete Steps * Reconstructed Cement Concrete Sidewalks * Bituminous Sidewalk * Construction & Inspection Procedures * Measurement & Payment 	6 - 2 6 - 2 6 - 2 6 - 2 6 - 3 6 - 3 6 - 3 6 - 4 6 - 4
CHAPTER 7 Cement Concrete Approaches	Introduction * Private & Commercial Cement Approaches * Grade Preparation * Forms * Concrete Composition & Placement * Finishing & Curing * Joints * Opening to Traffic * Construction & Inspection Procedures * Measurement & Payment	7 - 1 7 - 1 7 - 2 7 - 2 7 - 3 7 - 3 7 - 4 7 - 5 7 - 5
CHAPTER 8 Paved Side Ditch and Concrete Gutter	Introduction * Grade Preparation * Forms * Concrete Composition & Placement * Cut-Off Walls & Lugs * Finishing & Curing * Construction & Inspection Procedures	8 - 1 8 - 1 8 - 1 8 - 1 8 - 1 8 - 2 8 - 2
CHAPTER 9 Cement Concrete Barrier	Introduction * Grade Preparation * Precast Concrete Median Barrier * Description * Forms * Concrete Composition * Placing & Finishing Concrete * Removal of Forms & Curing * Handling & Shipping * Placement of Precast Units * Testing & Inspection Requirements * Basis for Use	9-1 9-2 9-2 9-2 9-2 9-3 9-3 9-4 9-4 9-4

	 * Cast-in-Place Concrete Median Barrier * Description * Forms * Concrete Composition, Placement, 	9 - 5 9 - 5 9 - 5
	and Finishing * Slipformming Pictures * Joints * Sealing * Reflectorization * Temporary Concrete Barriers * Description * Placing & Anchoring * Delineation * Measurement & Payment * Construction & Inspection Procedures	9 - 5 9 - 7 9 - 8 9 - 8 9 - 9 9 - 10 9 - 10 9 - 10 9 - 10 9 - 10
SECTION III	MISCELLANEOUS CONSTRUCTION ITEMS	S
CHAPTER 10 Underdrains	Introduction * Types * Pre-Construction Duties * Construction Duties * Materials & Basis of Use * Measurement & Payment * Materials * Pipe Installation * Geotextiles * Outlets * Outlet Protectors * Video Inspection * Measurement & Payment * Field Book * Construction Record	10 - 1 10 - 2 10 - 3 10 - 5 10 - 5 10 - 6 10 - 6 10 - 7 10 - 8 10 - 8 10 - 9 10 - 12 10 - 13
CHAPTER 11 Guard Rail	Introduction * W-Beam Guardrail Assemblies * Pre-Installation * Basis for Use * Inspection During Installation * Modified Guard Rail * End Treatments & Transitions * Concrete * Impact Attenuators	11 - 1 11 - 1 11 - 2 11 - 3 11 - 3 11 - 4 11 - 5 11 - 6

	* Measurements & Payments* Guardrail Drawings	11 - 7 11 - 8
CHAPTER 12	Introduction	12 - 1
Right of Way Fencing	* Types	12 - 1
	* Materials & Placement F.F.T.F.	12 - 2
	* F.F.T.F. Posts	12 - 2
	* Diagonal Braces* Line Posts	12 - 3 12 - 4
	* Woven Wire Fabric	12 - 4 12 - 4
	* Barbed Wire	12 - 4
	* Materials & Placement of C.L.T.F.	12 - 5
	* Gates	12 - 7
	* Measurements	12 - 8
	* Material Acceptance	12 – 8
CHAPTER 13	Introduction	13 - 1
Benchmarks,	Materials	
Posts,	Benchmark Posts & Tablets	13 - 1
Tablets,	Monuments	13 -1
Monuments, &	Reinforced Cement Concrete	
R/W Markers	Right of Way Markers	13 - 2
	Construction Requirements	12 2
	Setting Right of Way Markers	13 - 2
	Resetting Right of Way Markers	13 - 4
	Setting Monuments Reestablished Monuments	13 - 4 $13 - 4$
	Setting Benchmark Posts & Tablets	13 - 4 $13 - 5$
	Reset Benchmark Posts	13 - 5 $13 - 5$
	Method of Measurement	13 – 6
	Basis of Payment	13 – 6
	Standard Drawings	13 - 6
CHAPTER 14	Introduction	14 - 1
Geotextiles	* Storage & Handling	14 - 1
	* Placement	14 - 1
	* Overlapping & Pinning	14 - 2
	* Underdrains	14 - 3
	* Placement	14 - 3
	* Acceptance of Materials	14 - 3
	* Measurement & Payment	14 - 4

CHAPTER 15 Riprap	Introduction * Dumped Riprap * Revetment, Class1, & Class 2 Riprap * Grouted Riprap * Precast Cement Concrete Riprap * Uniform Riprap * Measurement * Acceptance	15 - 1 15 - 2 15 - 3 15 - 4 15 - 4 15 - 5 15 - 5
CHAPTER 16 Gabions	Introduction * INDOT Usage * Gabion Assembly * Installation * Filling * Acceptance & Payment	16 - 1 16 - 2 16 - 4 16 - 5 16 - 5 16 - 6
CHAPTER 17 Seeding	Introduction * Types * Preparation * Application Rate of Fertilizer * Application of Seed * Application Rate of Seed * Limitations * Mulching * Placement of Mulch Method A Method B Method C Method D Method E * Acceptance of Material * Measurement of Quantities	17 - 1 17 - 2 17 - 2 17 - 3 17 - 4 17 - 5 17 - 6 17 - 6 17 - 7 17 - 7 17 - 7 17 - 8 17 - 8 17 - 8 17 - 8
CHAPTER 18 Sodding	Introduction * Preparation of Ground * Laying Sod * Watering * Seasonal Limitations * Measurement * Basis of Payment	18 - 1 18 - 1 18 - 2 18 - 2 18 - 2 18 - 3 18 - 3